

**METHOD AND SYSTEM FOR COORDINATING AND UTILIZING CHANNEL
POWER INFORMATION IN AN OPTICAL COMMUNICATIONS NETWORK**

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. provisional application serial number
60/289,672, filed May 9, 2001, and U.S. nonprovisional application serial number
09/917,043, filed on July 27, 2001 the entire contents of which are incorporated herein by
reference.

BACKGROUND OF THE INVENTION

Field of Invention

The invention relates generally to a method and system for modeling channel power,
coordinating channel power information, and utilizing the coordinated channel power
information as a basis for managing optical network elements in a multi-channel optical
communications system.

Description of Related Art

Wavelength division multiplexing (WDM) has been used to increase the capacity of
existing fiber optic networks. In a WDM system, plural optical signal channels are carried
over a single optical fiber with each channel being assigned a particular wavelength. Such
systems typically include a plurality of receivers, each detecting a respective channel by
effectively filtering out the remaining channels.

Optical channels in a WDM system are frequently transmitted over silica based
optical fibers, which typically have relatively low loss at wavelengths within a range of 1525
nm to 1580 nm. WDM optical signal channels at wavelengths within this low loss "window"
can be transmitted over distances of approximately 50 km without significant attenuation.